



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

|   |             |                      |                        |                  |
|---|-------------|----------------------|------------------------|------------------|
| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
| 10/507,119  | 09/10/2004  | George Kammler       | 016906-0322            | 4162             |
| 22428      7590      08/21/2007<br>FOLEY AND LARDNER LLP<br>SUITE 500<br>3000 K STREET NW<br>WASHINGTON, DC 20007 |             |                      | EXAMINER               |                  |
|   |             |                      | CORRIGAN, JOSEPH JAMES |                  |
| ART UNIT  |             | PAPER NUMBER         |                        |                  |
| 3709  |             |                      |                        |                  |
| MAIL DATE   |             | DELIVERY MODE        |                        |                  |
| 08/21/2007  |             | PAPER                |                        |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/507,119             | KAMMLER, GEORGE     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | joseph corrigan        | 3709                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 9/10/04.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-22 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10 September 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/10/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Specification***

1. The disclosure is objected to because of specification is missing element numbers 180, 251 & 252 found in drawings and missing headings. Below is description per 37 CFR 1.77(b) detailing requirements:

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a)

and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate correction is required.

***Claim Objections***

2. Claim 3, line 3 reads ".... formed by the first tube part and **a** second tube part." should read ".... formed by the first tube part and **the** second tube part." An appropriate correction is required.

3. Claim 19 states, " ..... **at** at least one end region, to a connection element for supplying and/or discharging a first medium." Should read "..... **to** at least one end region, to a connection element for supplying and/or discharging a first medium."

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9, 11-15, 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu '5,048,596'.

6. In re claim 1, Lu '596 discloses a heat exchanger (fig. 3 & 4) having at least one tube (34) through which a first medium can flow and which at a first end region (50) is connected to a first terminating element (50) and at a second end region (52) is connected to a second terminating element (52), a first and a second tube part (10) respectively being connected to the first and second terminating elements (50,52), characterized in that the two tube parts run radially into one another at least over a partial region of their axial extent, with at least one sealing element (84) in the spatial region between the tube parts.
7. In re claim 2, Lu '596 discloses at least one chamber (56) formed between the first tube part and the second tube part. (see fig. 3)
8. In re claim 3, Lu '596 discloses at least one chamber (56) formed by the first tube part and a second tube part. (see fig. 3)
9. In re claim 4, Lu '596 discloses at least one chamber (56) has at least one substantially ring-like, radially protruding element (72).
10. In re claim 5, Lu '596 discloses at least one chamber (56) has at least two elements (72, 82) which protrude in the radial direction substantially in ring form and are spaced apart in the axial direction. (see fig. 4)

11. In re claims 6, Lu '596 discloses at least one element (82) which protrudes radially in the style of a ring forms an integral constituent of a tube part (10).
12. In re claim 7, Lu '596 discloses that the elements which protrude in the style of rings (72, 82) are formed integrally with one tube part and/or the other tube part.
13. In re to claim 8, Lu '596 discloses that at least one element which protrudes in the style of a ring (84) is an additional component which is arranged between one (50) tube part and the other tube part (10) and if appropriate is connected to one tube part or the other tube part. (see fig. 4)
14. In re claim 9, Lu '596 disclose the chamber (56) is at least substantially sealed off by the ring-like elements (72, 82, 84).
15. In re to claim 11, Lu '596 discloses the elements which protrude in the style of rings (72, 82, 84) serve as a support, as seen in the radial direction, for the tube parts. (see fig. 4)
16. In re to claim 12, Lu '596 dislcoses the elements which protrude in the style of rings (72, 82, 84) serve as axial bearings. (see fig. 4)

17. In re to claim 13, Lu '596 discloses the chamber (56) is at least partially filled with an elastic means (84). (see fig. 4)

18. In re to claim 14, Lu '596 discloses the chamber (56) is filled in such a manner that a ring-like element is formed from the elastic medium (84) in the chamber, which extends between the radially inner tube part and the radially outer tube part. (see fig. 4)

19. In re to claim 15, Lu '596 discloses the elastic element (84) can be laid into the chamber (56) as a ring element. (see fig. 4)

20. In re to claim 17, Lu '596 discloses a plurality of tubes (34) through which a first medium flows are arranged substantially parallel to one another radially inside the tube parts. (see fig. 3)

21. In re to claim 18, Lu '596 discloses the plurality of tubes (34) are each connected, at their first end region (50), to a first terminating element (50) and are each connected, at their second end region (52), to the second terminating element (52). (see fig. 3 & 4)

22. In re to claim 19, Lu '596 discloses that at least one tube through which a first medium flows is connected, to at least one end region (50), to a connection element (54) for supplying and/or discharging a first medium. (see fig. 3)

23. In re to claim 20, Lu '596 discloses at least one terminating element (50) is connected to at least one connection element (54) for supplying and/or discharging a first medium. (see fig. 3)
24. In re claim 21, Lu '596 discloses the tube parts which are connected at the respective terminating elements (57, 58), with elastic means (84) provided in the chamber (54), form a substantially sealed spatial region (30) where at least two connection elements (64, 65) being provided and it being possible for a second medium to flow through the spatial region (30) through the connection elements (64,65). (see fig. 3)
25. In re to claim 22, Lu '596 discloses the second medium flows around the tubes (34) through which the first medium flows. (see fig. 3)

***Claim Rejections - 35 USC § 103***

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

25. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu '5,048,596' in view of Nimomiya '4,972,902'.

26. In re to claim 10, Lu '596 fails to disclose the chamber is not sealed off by the ring-like elements.

27. Nevertheless, Nimomiya '902 discloses the chamber (22) is not sealed off by the ring-like elements.

28. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lu '596 with Nimomiya '902 introducing a more integrally cast tube cylinder advantageous for applications where tube ends do not require frequent disassembly leading to fewer parts and elimination of expansion ring monitoring.

34. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu '5,048,596' in view of Puntambekar et al '5,195,581'.

35. In re claim 16, Lu '596 fails to disclose the elastic element can be introduced into the chamber as a pasty or gel-like medium.

Art Unit: 3709

36. Nevertheless, Puntambekar et al '581 discloses the use of silicone seal by Dow Corning as gasket between header (20) and tank member (18). (See column 3, lines 10-17) which can be likened to elastic element described in claim limitations.

37. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lu '596 with Puntambekar et al '581 to introduce gel-like seal (silicone), a highly durable gasket agent, to complete the seal between tube parts ensuring seal despite excess vibration.

## Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **US 2,607,567** discloses a heat exchanger with many of the same features as invention herein. **US 1,780,837** discloses a surface condenser with an integrally constructed tubular body meeting claim limitation herein. **US 3,443,548** discloses a steam generator with similar structural characteristics as invention herein. **US 1,724,351** discloses a heat exchanger with ring-like seal and parallel tubes similar to invention herein. **US 5,048,596** discloses a oil cooler with sealed tubular construction similar to invention herein. **US 5,195,581** discloses a snap on radiator tank which utilizes a silicone seal similar to that cited in claim limitation herein. **US 4,972,902** discloses a triple-wall tube heat exchanger which exhibits integral shell assembly similar to claim 10 limitation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph J. Corrigan whose telephone number is 571-270-3213. The examiner can normally be reached on m-f 7:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on (571) 272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joseph J Corrigan  
Examiner  
Art Unit 3744



TERRELL L. MCKINNON  
SUPERVISORY PATENT EXAMINER